

Kaliya Hamlin, Executive Director

**PERSONAL DATA
ECOSYSTEM CONSORTIUM**



Presentation at the NSTIC Privacy Workshop

June 28, 2011

Boston, Massachusetts



End user advocate since 2003 with the handle:



Saving the World with User-Centric Identity



Co-Founder, Co-Producer, Co-Facilitator

Internet Identity Workshop

A hub of innovation focused
on user-centric identity.

 **identitycommons** Began in 2005 & # 13 is this October.

Fair Information Practice Principles

Transparency

Purpose Specification

Individual Participation

Data Minimization

Use Limitation

Data Quality and Integrity

Security

Accountability and Auditing

1973





Personal Network Nodes

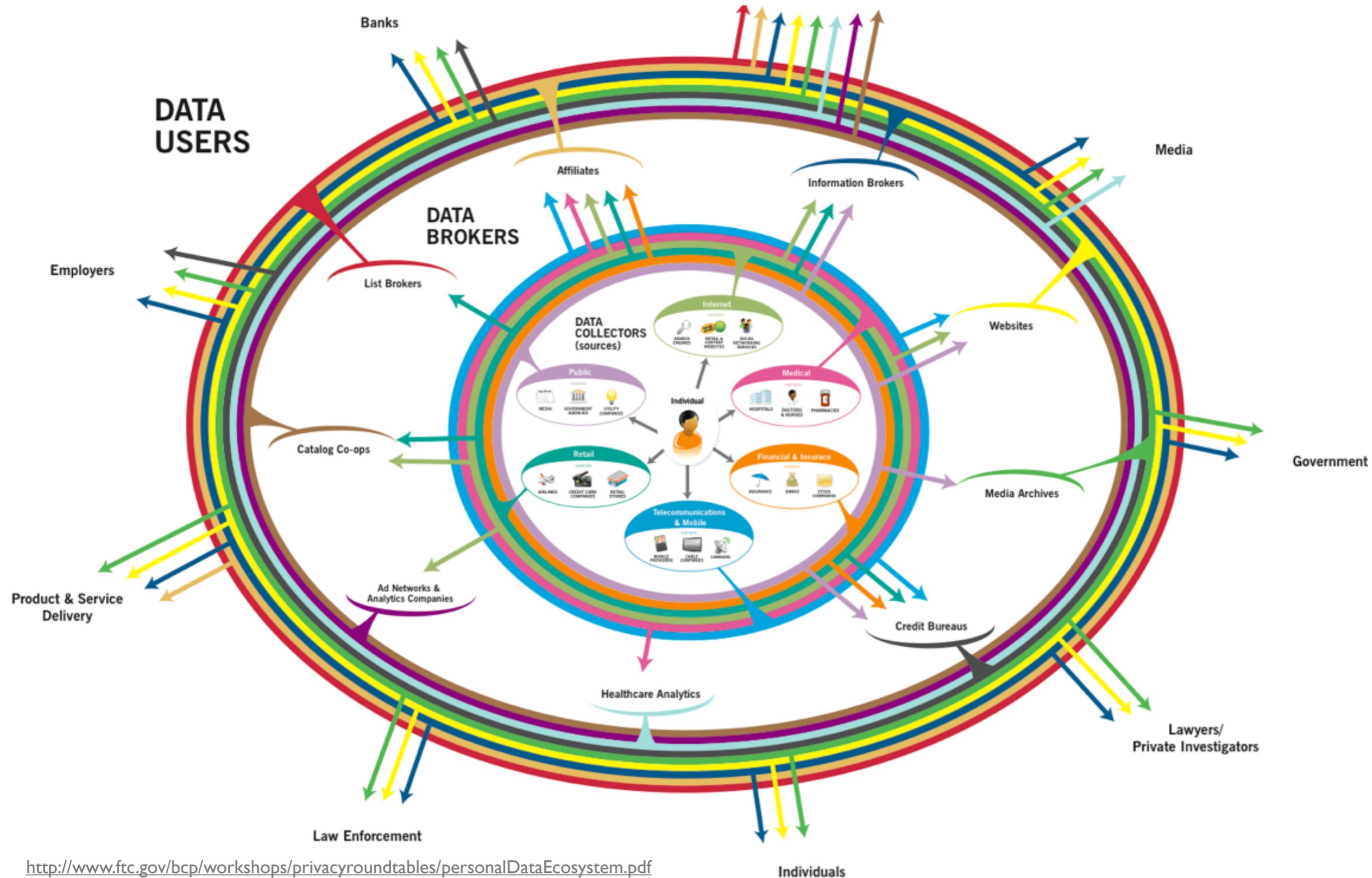


Blogs
MicroBlogs
Profiles:
*Professional
*Personal

Can new and emerging technologies can be applied towards making FIPPs real today?



Personal Data Ecosystem



<http://www.ftc.gov/bcp/workshops/privacyroundtables/personalDataEcosystem.pdf>



Today's Personal Data Ecosystem

Adapted from Exploring Privacy <http://www.ftc.gov/bcp/workshops/privacyroundtables/personaldataecosystem.pdf>



Track Business as Usual

Do Not Track Privacy

Track Business as Usual

Do Not Track Privacy

Business as Usual Track

Do Not Track Privacy

Business as Usual Track

Do Not Track Privacy

Privacy & Civil Liberty
Advocacy Groups

Service Providers Web/Telcom
Advertising Networks
Data Mining Co's



**Do Not Track
& Privacy**

Middle Way

**New Business
Opportunities**

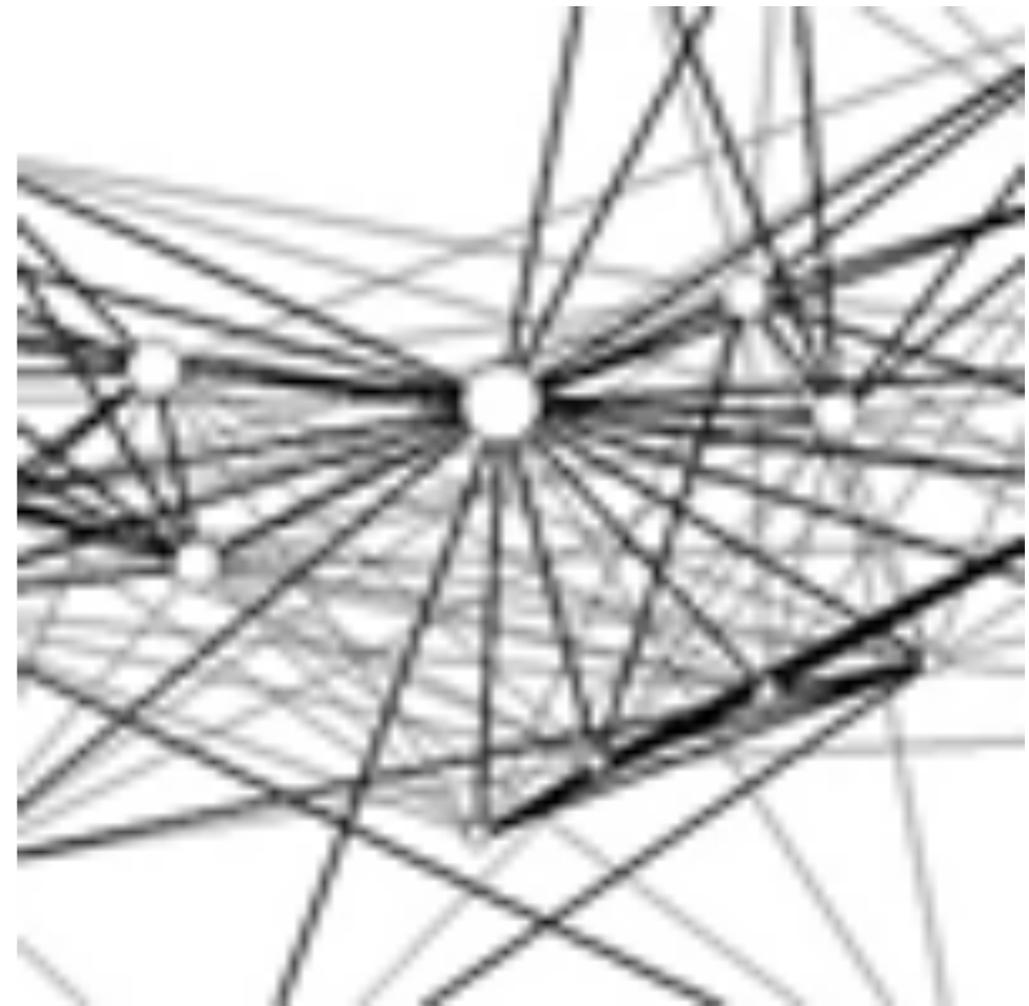
PERSONAL DATA

ECOSYSTEM CONSORTIUM

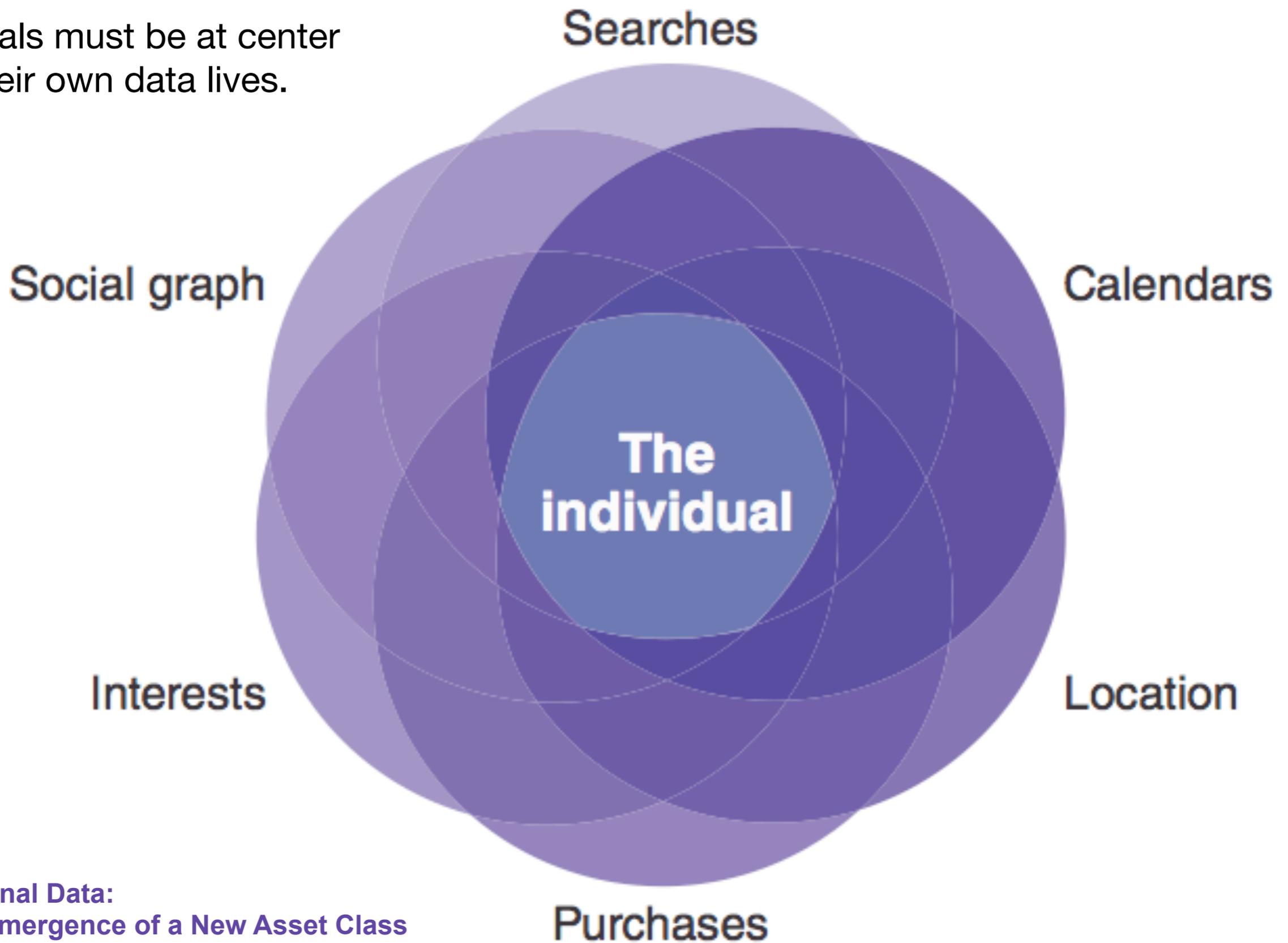


People can track themselves and gain value from their own data.

Leveraging Personal Devices & Network Nodes



Individuals must be at center of their own data lives.



Personal Data:

The Emergence of a New Asset Class

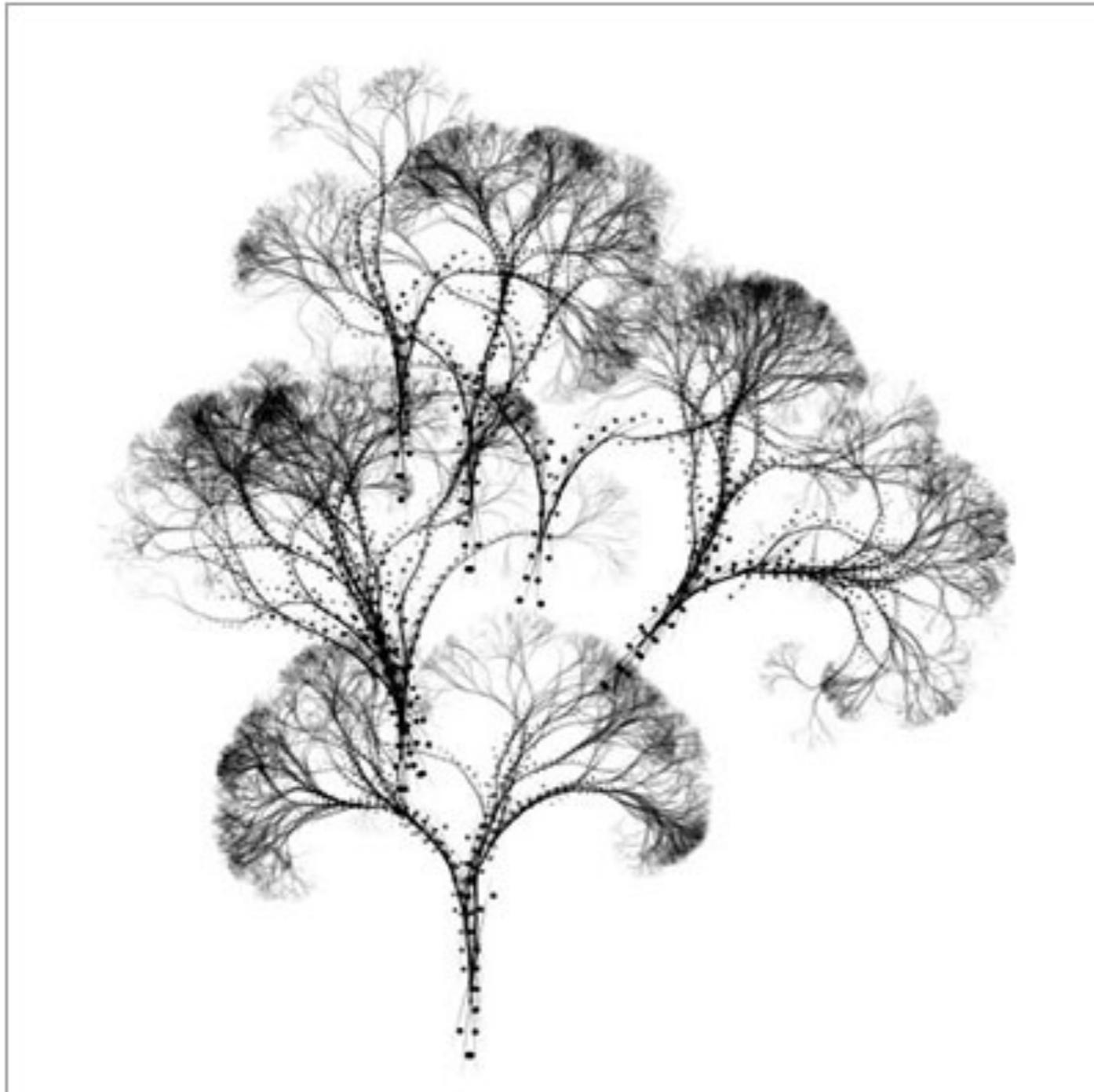
A World Economic Forum Report, February 2011

FIGURE 1: INDIVIDUAL END USERS ARE AT THE CENTER OF DIVERSE TYPES OF PERSONAL

DATA Source: Davis, Marc, Ron Martinez and Chris Kalaboukis. "Rethinking Personal Information – Workshop Pre-read." Invention Arts and World Economic Forum, June 2010.

Why Does this Matter?

Individuals move across contexts.



<http://cmykern.com/?p=1112>

Contexts the Individual does not want linked (without their knowledge and consent).

Women having the freedom not to present as women.

Why James Chartrand Wears Women's Underpants



<http://www.copyblogger.com/james-chartrand-underpants/>





1. Live Journal Friends

2. Professional ID

3. Feminist Identity

1. Me linked to real name

2. Spiritual

3. Gaming

1. Totally Professional on Domain, GMail, LinkedIn

2. Social but me on Facebook

3. Spiritual under pseudonym on Live Journal

Real examples of personae separation by women attending the She's Geeky conference.



Religious Expression



<http://religions.iloveindia.com/buddhism.html>

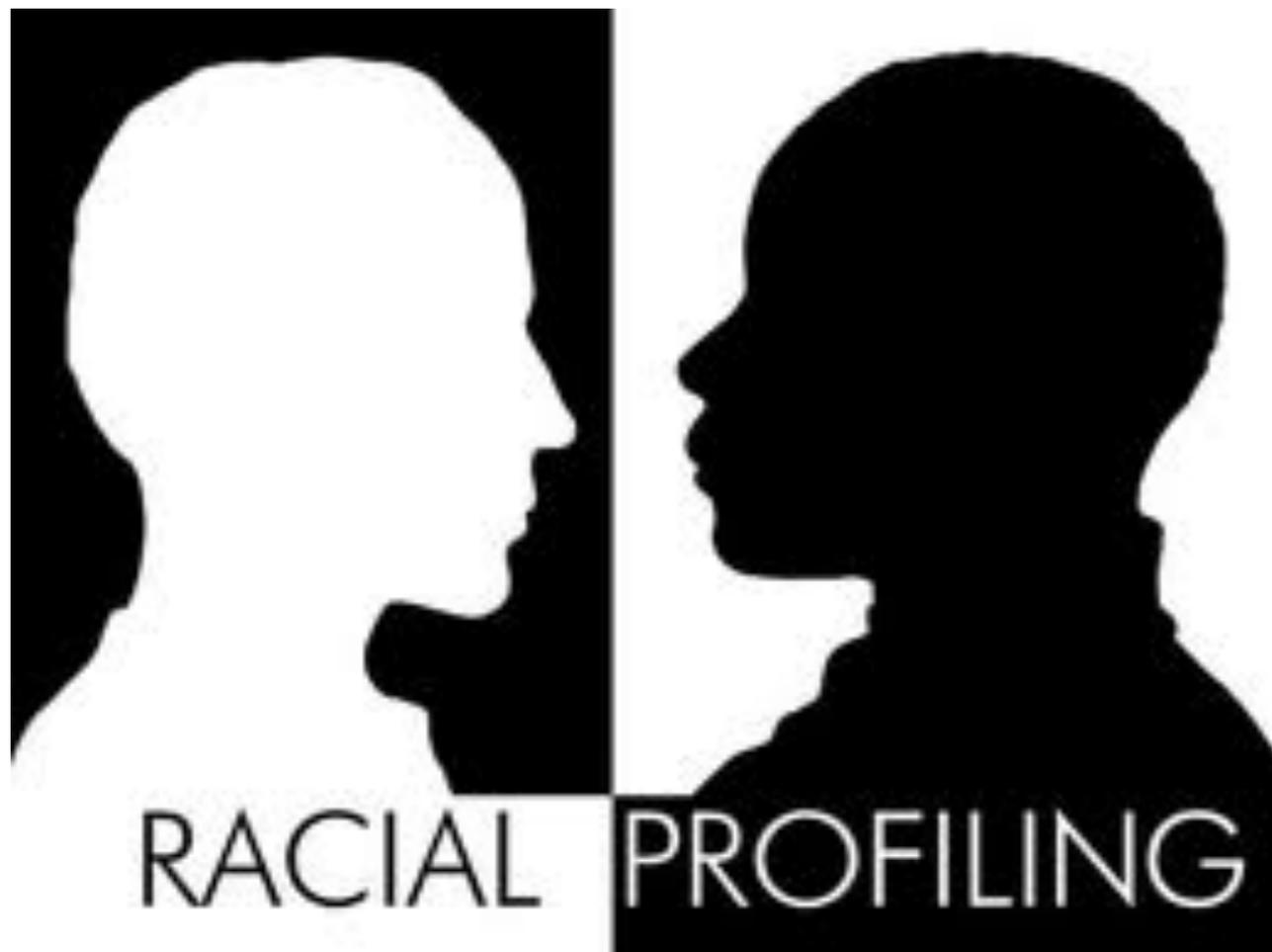
Buddhist in Tennessee



<http://wwp.greenwichmeantime.com/time-zone/usa/tennessee/map.htm>



Ethnic and Racial Minorities



<http://www.hhs.state.ne.us/healthdisparities/MHfocusgroups.htm>



Sexual Minorities

http://en.wikipedia.org/wiki/Sexual_minority



<http://rowantinne.tripod.com/id28.html>



Political Expression

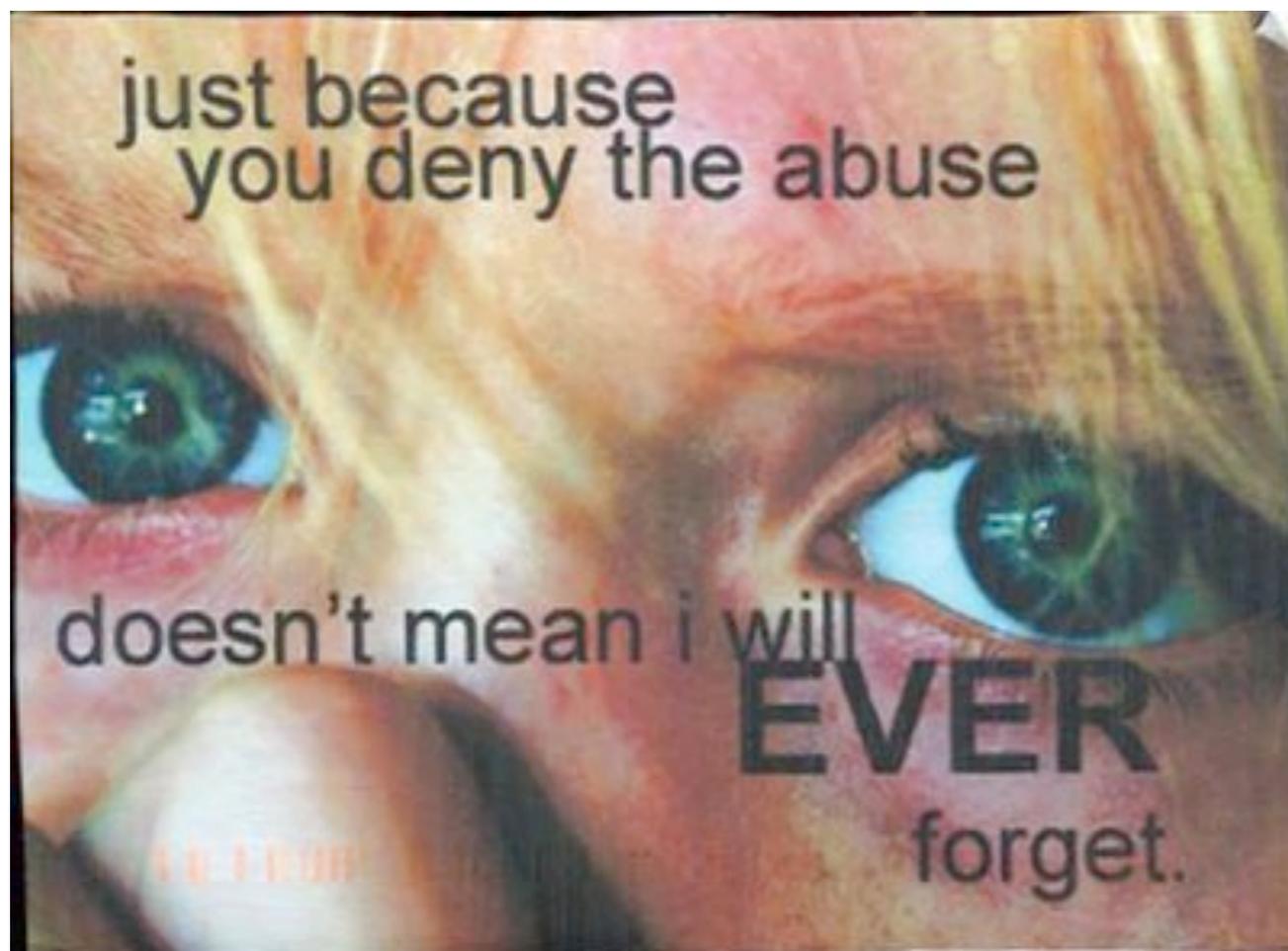


Personal Expression





Medical Issues



<http://huehuetootl.wordpress.com/2009/11/24/mental-health-32-times-more-cost-effective-at-increasing-happiness-than-money/>

Family Issues

Mental Health Issues





Almost
19
and...

SPENDS
AROUND
36 HOURS
A WEEK
PLAYING
PRETEND

With action
figures

Addicted
Just can't
give it

UP



Freedom of Action

Young people free to explore themselves



Teachers being able to drink socially when on own time.

Gammers:
Blizzard WoW in game ID
vs “RealID” change.

People need tools to manage:

- Contexts
- Personae
- Linking and data sharing
- Control inferences made from data
- Rights to use and share specific data
- Allow data leveraged in aggregate sets

Business models and opportunities that incentivize these capabilities are needed.



The Value of Personal Data is High

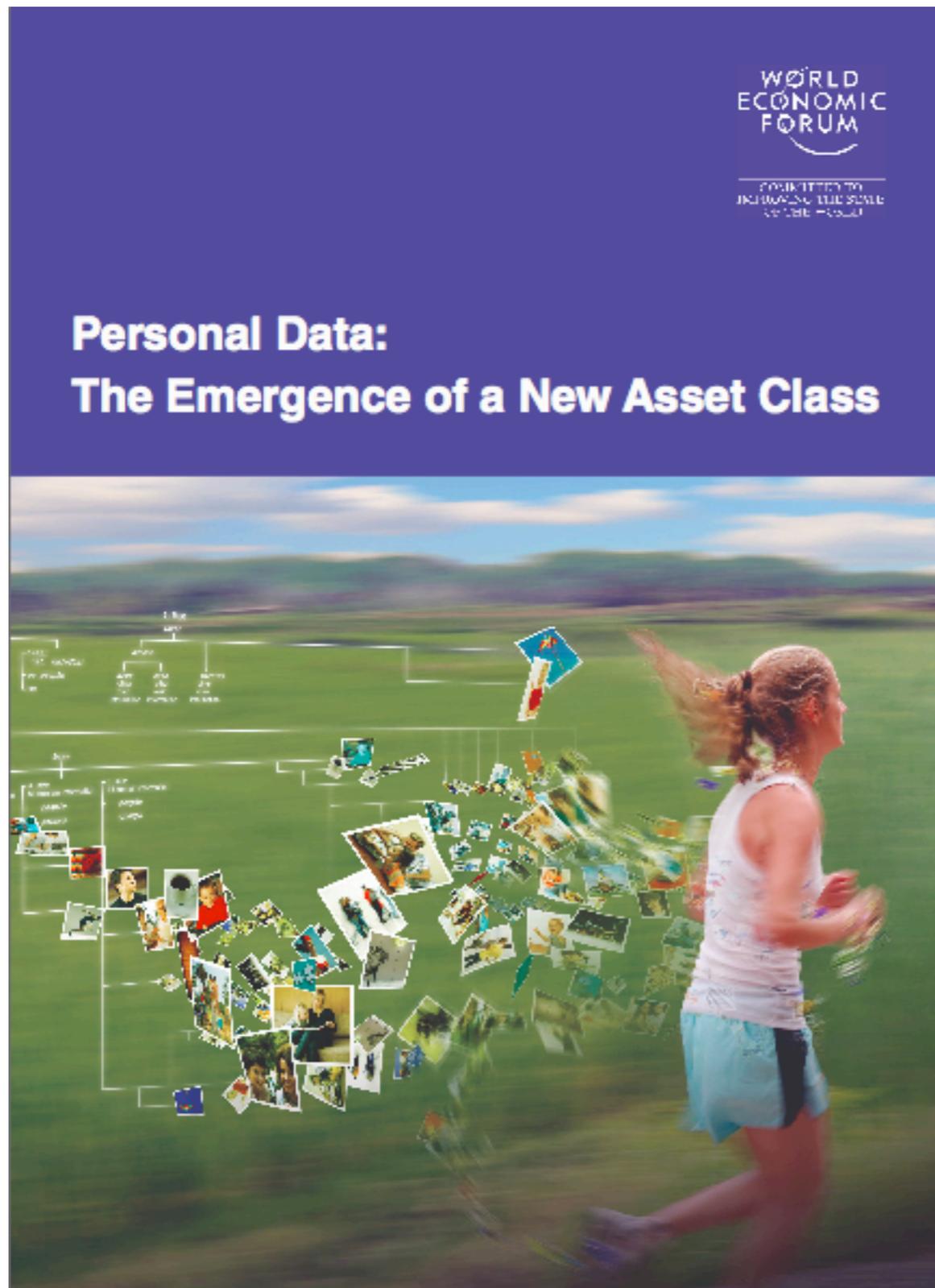


Today's data brokers admit:
“50% of our data is inaccurate.
We don't know which 50%.”



World Economic Forum Report

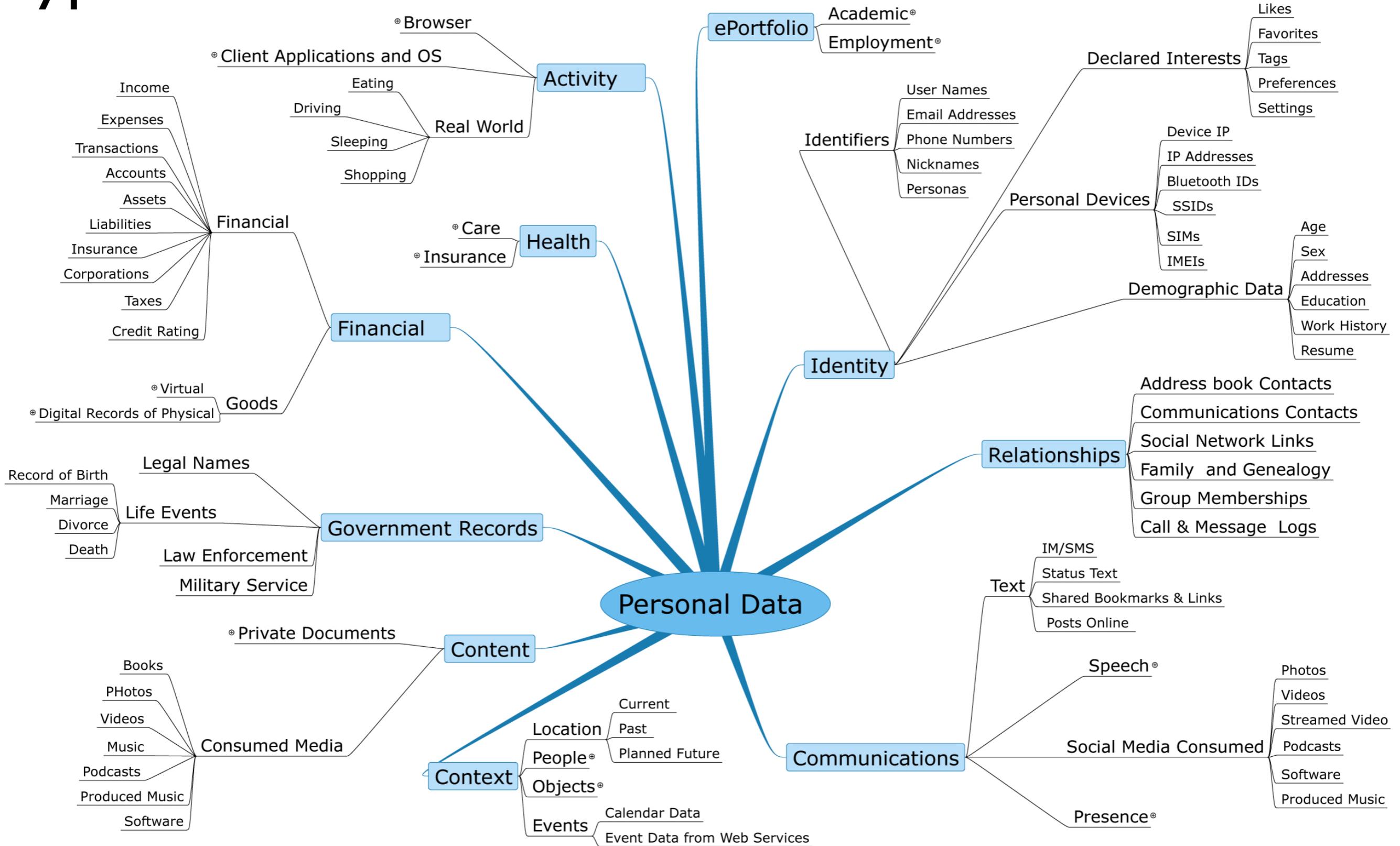
Personal Data: The Emergence of a New Asset Class



- 1) Innovate around user-centricity and trust.
- 2) Define global principles for using and sharing personal data.
- 3) Strengthen the dialogue between regulators and the private sector.
- 4) Focus on interoperability and open standards.
- 5) Continually share knowledge.



Types of Personal Data



Personal data types in this diagram are drawn from the types identified in Rethinking Personal Data Pre-Read Document published by the World Economic Forum written by Marc Davis et al published in June, 2010.



People are the only
ethical integrators
of their own diverse
data streams.

From NSTIC

Key operational roles:

- subjects
- relying parties
- identity providers
- attribute providers
- accreditation authorities

Vision of Self Sustaining Ecosystem

“will require new business models each of the service provider roles”

My question: What about the individual's (the subject's) business model?



**We need business
and market models
for business agents that
work on the users behalf.**



Personal Data

Stores

Banks

Lockers

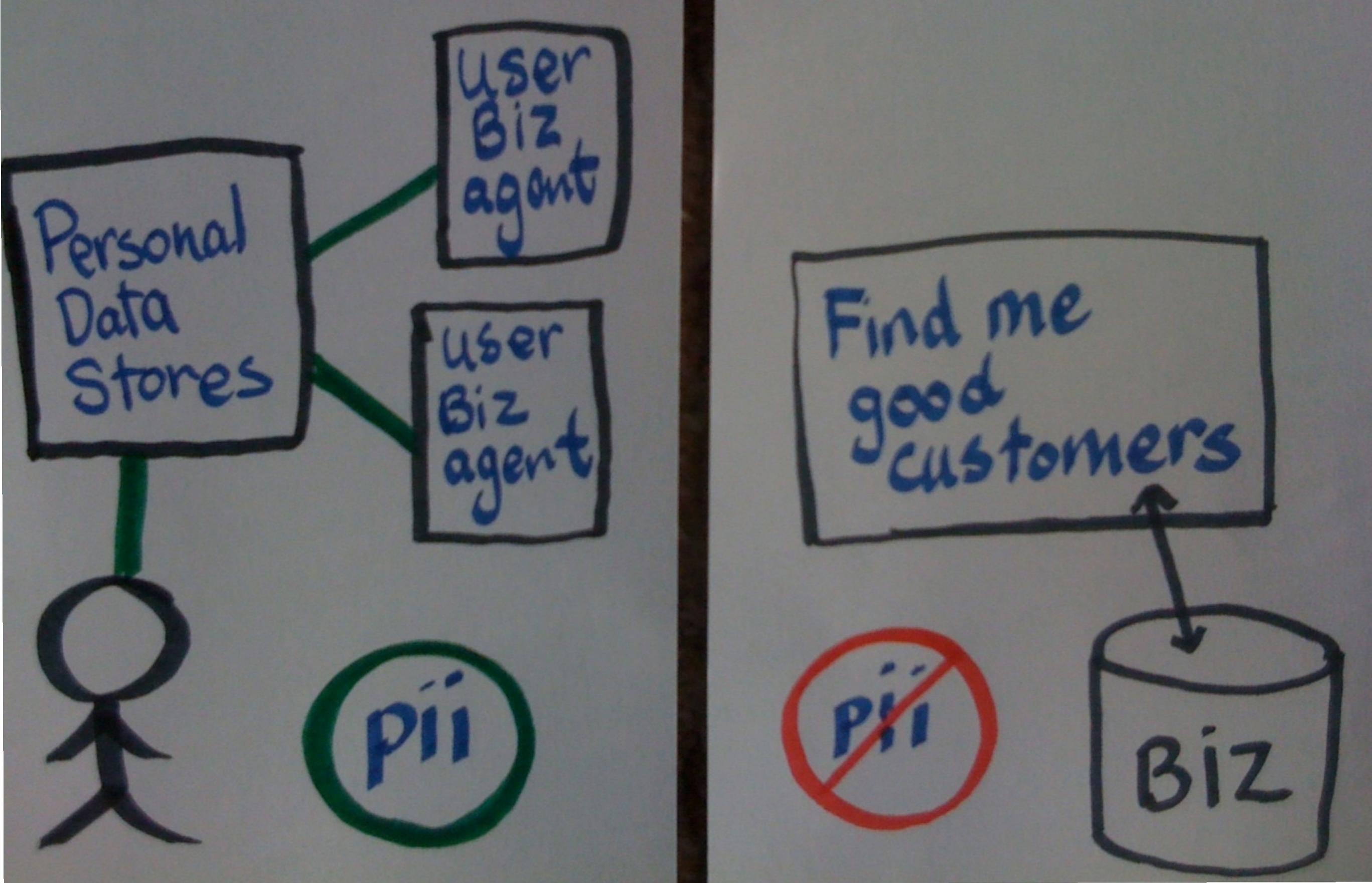
Services

Vaults



Tools for individuals to manage their own information and collect their own data and get value from that in new markets.





One example of a market model with user business agents.



PDEC

STARTUP

CIRCLE



connect.me

my INFOSAFE



PRIVO
PRIVACY, PERMISSION & TRUST



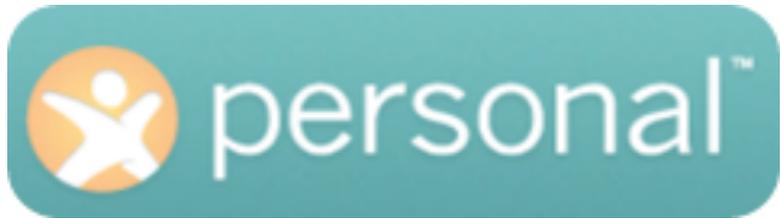
Peercraft



azigo



egoArchive



kynetx

reputation.com

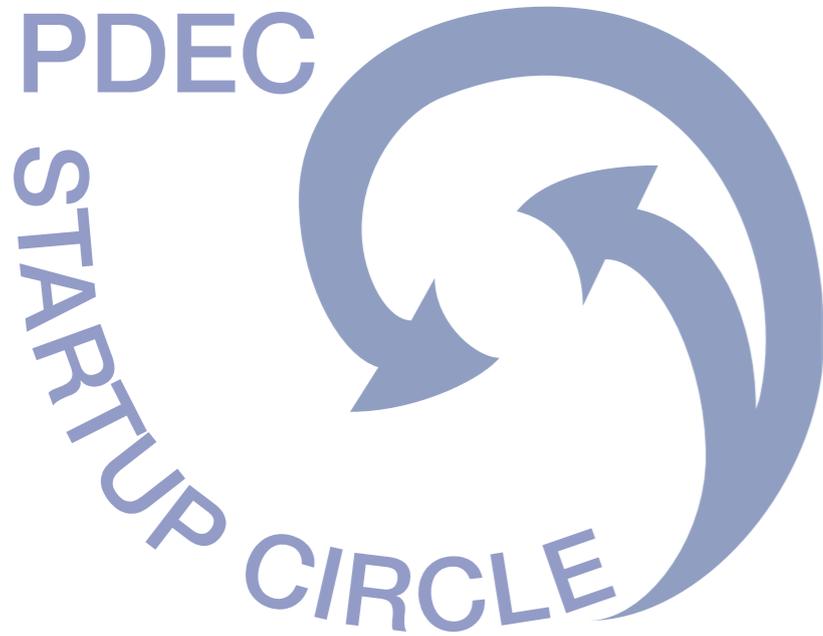
SwitchBook

Complex Searches Made Simple™



The Customer's Voice





Open Standards & Interoperability

Adoption of OAuth

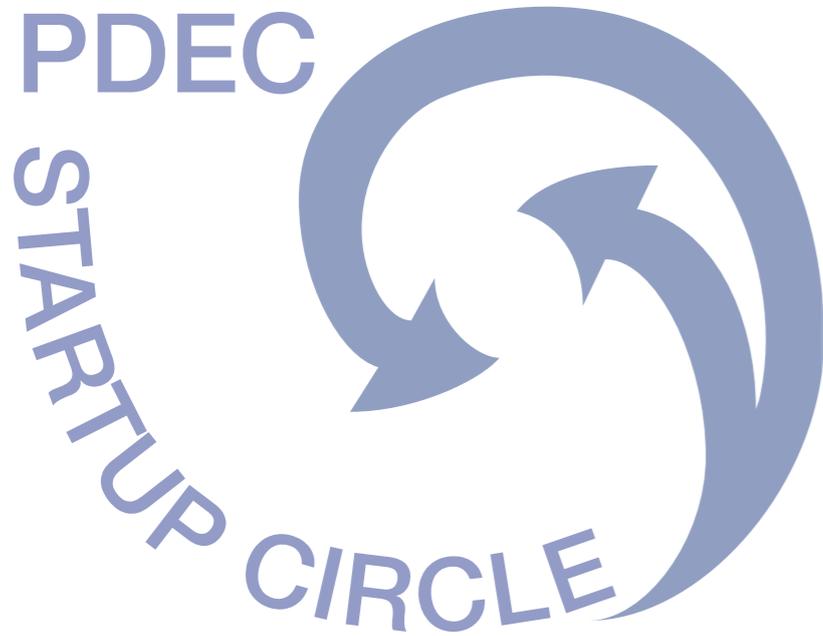
Data Representation JSON

Considering Federated Social Web
OStatus, Activity Streams

Debates about semantic options and tools
RDF, Linked Data, XRI/XDI

Innovation to solve new things: TeleHash





Legal Innovation

Information
Sharing Work Group



Owner Agreement Highlights

- **You Own Your Data.** You contractually own all your data.
- **Data You Grant Access To Is Legally Protected.** Personal will never share or use your data. Only you can grant access to your data or request access to data from others.
- **You Control Who Gets Access.** Personal will never share or use your data. Only you can grant access to your data or request access to data from others.
- **Take Your Data With You.** You can easily export your data and permanently delete it from Personal.



Some say people “don’t care”

And here is what they’re
most worried about securing:



70.0%
Personal
Information



68.0%
Credit Card Security



67.0%
National Security



50.5%
Online Shopping/
Banking



48.9%
Meeting Financial
Obligations



48.6%
Viruses/
Unsolicited
Emails

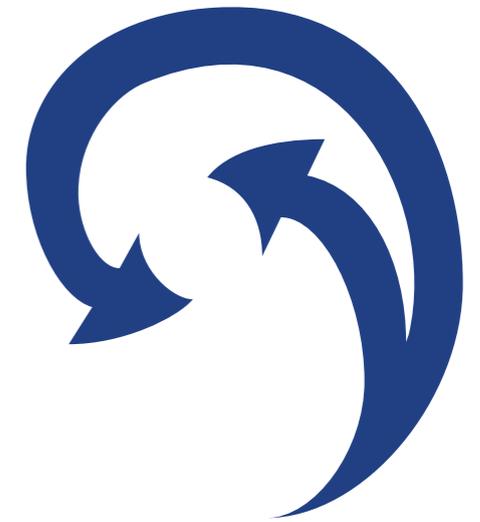


29.6%
Personal
Safety

<http://www.unisyssecurityindex.com/usi/us>

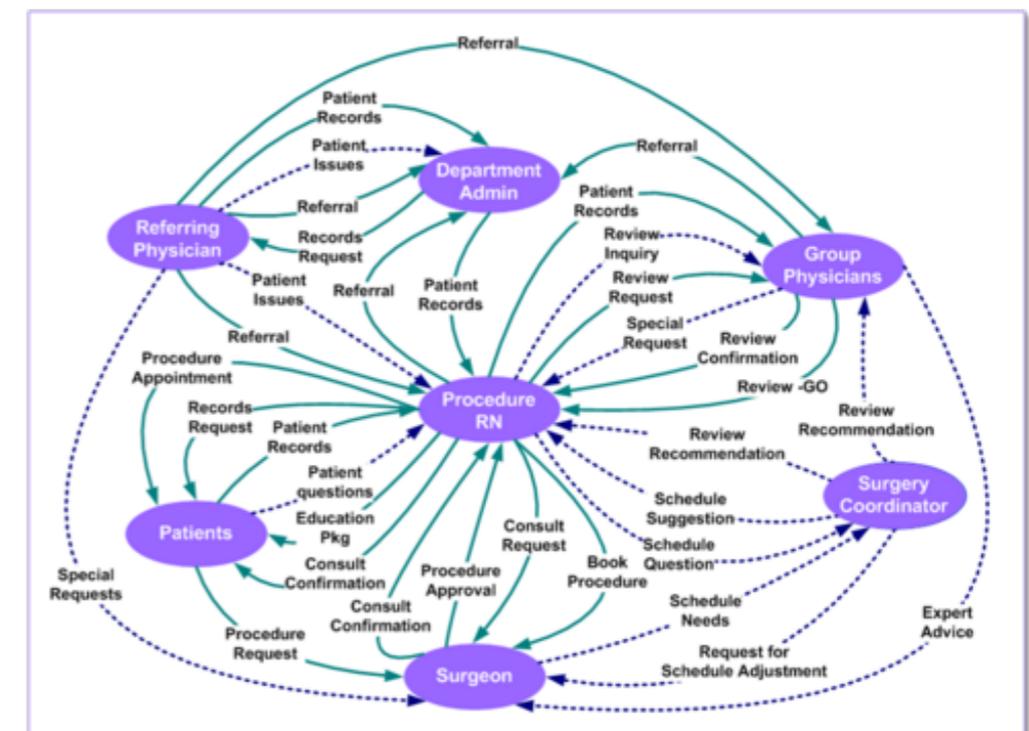
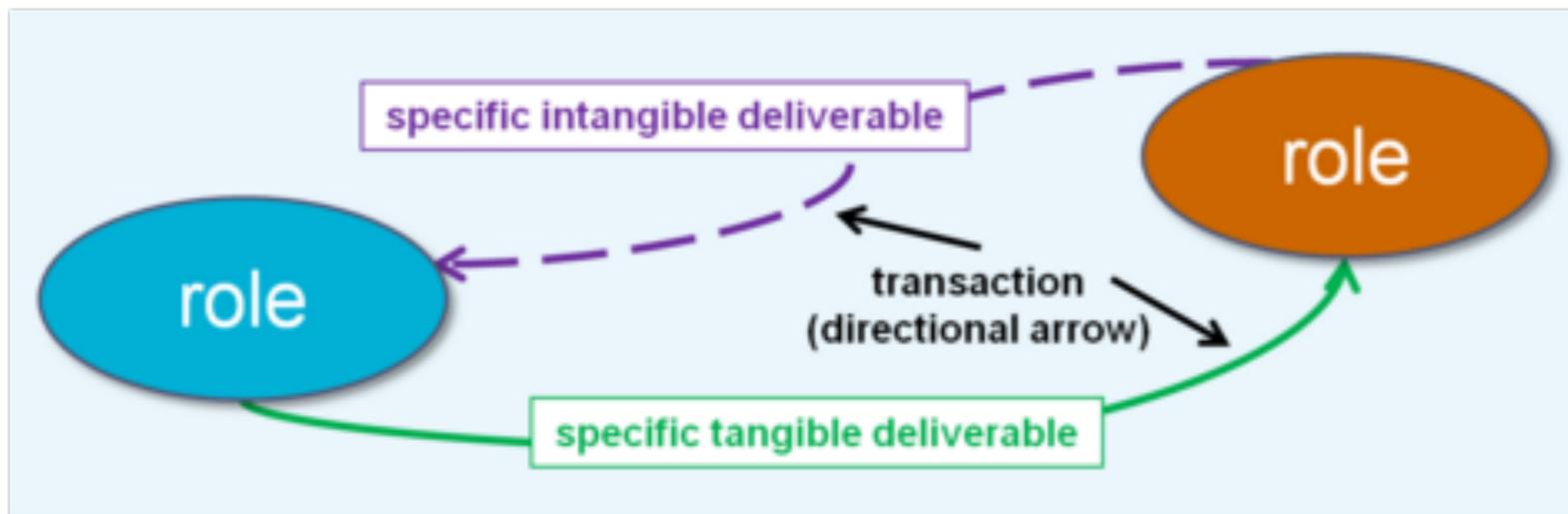


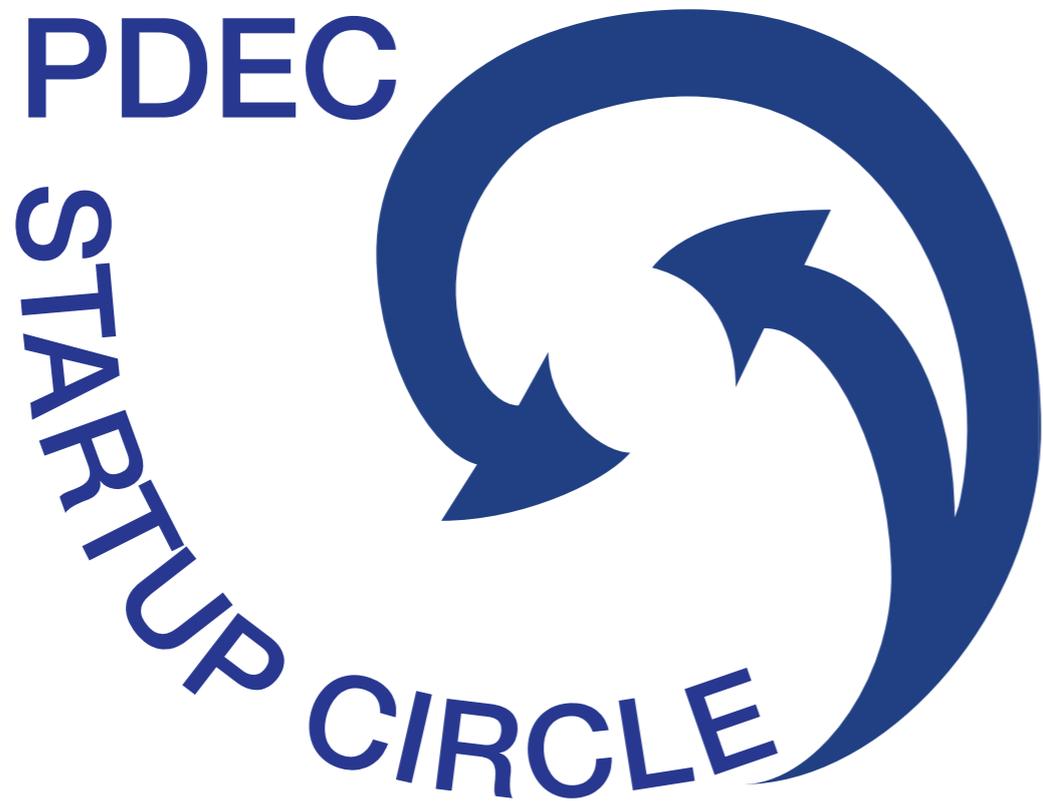
PDEC INDUSTRY COLLABORATIVE



Exploring overall market models using Value Network Mapping and Analysis.

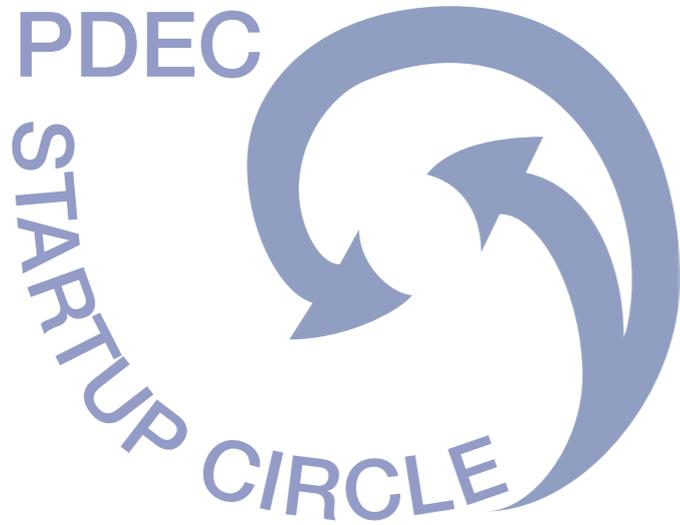
How can personal data stores and services make money and not turn on the end user?





Screen Shots





Screen Shot



search

HOME

DATA VAULT

ACCESS

MATCHES

GEM GALLERY



Karen Sippel
Account | Logout



Data Vault

My Gems

All My Data Fields

Gems from Others

Views:

All

About Me

Data Sources

Electronics

Family

Food & Dining

For Fun

Health

Insurance

Life at Home

Money

Pets

Shopping

Travel



Pet Basics



Pet Sitter or Walker



Pet Health & Vet



Pet Boarding



Beverage Preferences



Favorite Beers (4)



Food Preferences



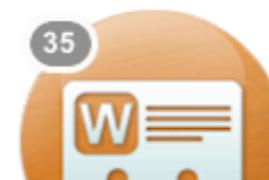
Dinner Party Guest



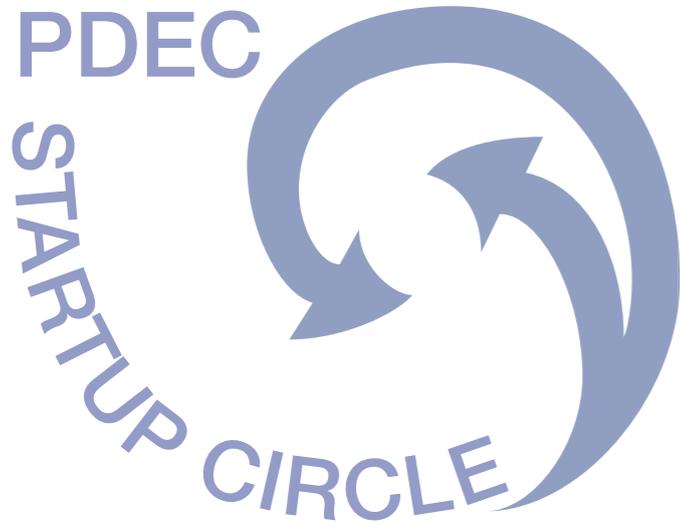
Dining Out



Account Logins



FEEDBACK



Screen Shot



 **Karen Sippel**
Account | Logout



Data Vault > My Gems > Pets
Pet Sitter or Walker

Hide Unanswered

Feed View/Edit Grant Access Request Access Compare

Edit all 

Add Related Gems to My Data Vault



Invite Others to try Personal

Invite others to try closed beta version of the site

Invite Others

Import Your Contacts

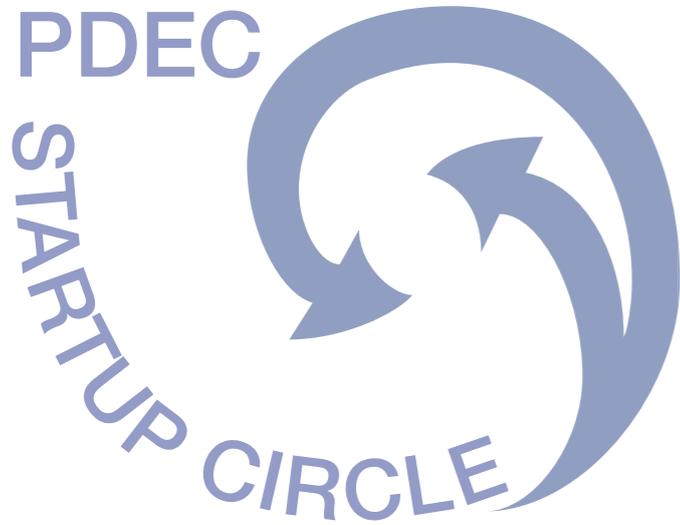


Sadie +

The Essentials

Pet Nickname	Sadie	Edit
Pet Location	She is loose in the house	Edit
Pet Food Location	1/2 can of wet food in the morning, after a walk and before you leave for the day. Store opened cans in the fridge. Feed 1 cup dry food (scoop is in the food bin) in the evening after a walk. Kibble and extra cans of wet food are in the laundry room.	Edit
Pet Likes	belly rubs, napping with you on the couch, sitting in the bay window, most dogs in the neighborhood	Edit
Pet Dislikes	having her nails trimmed, being brushed, delivery men, a little brown/orange dog named Molly	Edit
Pet No-Nos	counter surf - when you leave the house, be sure that there is NO food out on the counters	Edit
Cleaning Supplies Location	Under the kitchen sink	Edit

FEEDBACK



Screen Shot



search

HOME

DATA VAULT

ACCESS

MATCHES

GEM GALLERY [+](#)



Karen Sippel
Account | Logout



Data Vault > My Gems > Pets
Pet Sitter or Walker

Feed | View/Edit | **Grant Access** | Request Access | Compare

Add Related Gems to My Data Vault



Invite Others to try Personal

Invite others to try closed beta version of the site

Invite Others

Import Your Contacts



Gems:

Include up to 10 Gems

Pet Health & Vet: Sadie [x](#)

Pet Basics: Sadie [x](#)

Pet Sitter or Walker: Sadie [x](#)

Type a gem name to grant access to

Include Related Gems

[Add More](#)



Home Directions

[Add A Personal Message](#)

Contacts:

Include up to 10 Contacts

matthew@personal.com [x](#)

Type in a contact name or email address

Include People You Give Access to Most

[Add More](#)

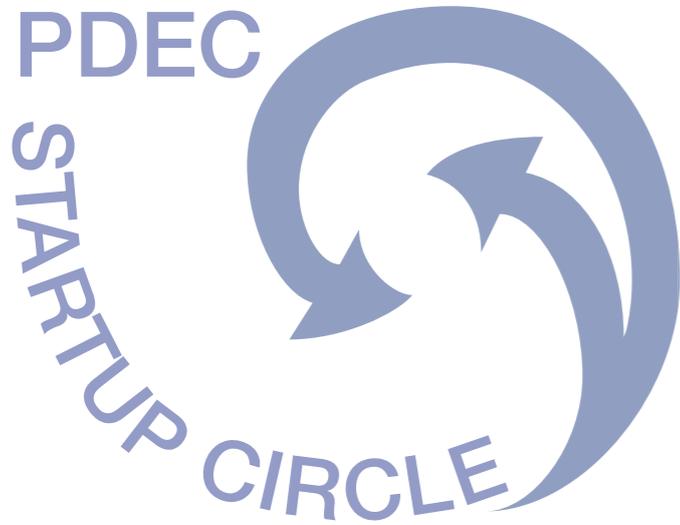


Contact can adopt data [?](#)

[Grant Access](#) [?](#)

You can also [email this data](#) [?](#)

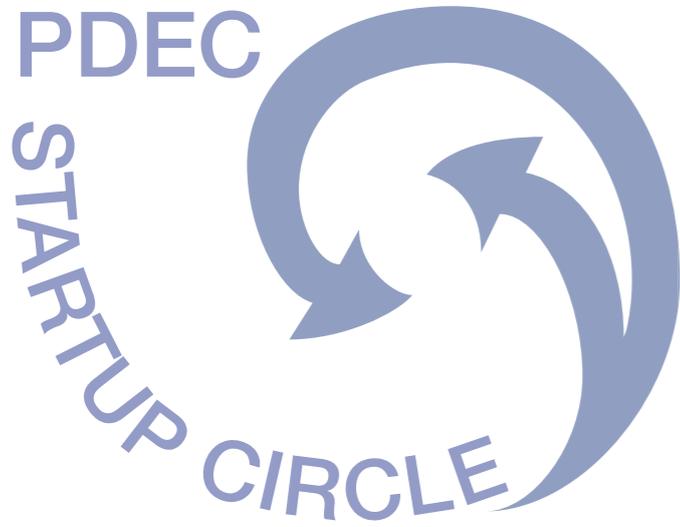
FEEDBACK



Screen Shot



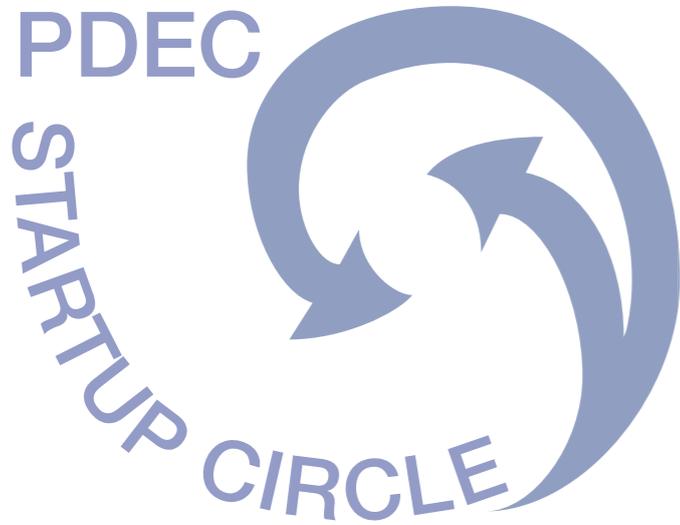
A screenshot of a web browser displaying the 'Ad Preferences' page on the Azigo website. The browser's address bar shows 'my.azigo.com'. The page header includes 'Private Beta', navigation links for 'Dashboard', 'Cards', and 'Welcome, valeskaux', and a 'Logout' button. The main content area features a sidebar with three cards: 'Ad Preferences' (highlighted), 'Web Surfing', and 'COMING SOON August 2011'. The 'Ad Preferences' card is expanded, showing a user profile with a female icon, the text 'I am ...', and details: 'A female between 45 - 54 years old and my zip code is 02453'. Below this, it lists interests: 'Arts & Entertainment' (with sub-interests 'Movie Listings & Theater Showtimes'), 'Automotive' (with sub-interest 'Mercedes-Benz'), and 'Computers & Eletronics' (with sub-interests 'Mac', 'Tablet', and 'Pad').



Screen Shot

A screenshot of a web browser displaying the Azigo website. The browser's address bar shows "my.azigo.com". The website's navigation bar includes "Private Beta", "Dashboard", "Cards", "Welcome, valeskaux", and a "Logout" button. On the left side, there are three stacked cards: "Ad Preferences" (pink), "Web Surfing" (dark with glowing eyes), and "COMING SOON August 2011" (white with a dashed border). The "Web Surfing" card is expanded to show a table of items. The table has columns for "When", "Where", and "What". The items listed are: Pandora Radio (Music), Twitter (Social), HuffPost (News), Massage Therapy Boston (Beauty & Fitness), and True Religion jeans (Men's Clothes). The last item is checked with a blue box.

<input type="checkbox"/>	When	Where	What
Today - Friday, June 3, 2011			
<input type="checkbox"/>	9:15 PM	Pandora Radio - Listen to Free Internet Radio, Find New Music	Music
<input type="checkbox"/>	6:05 PM	Twitter, Free Speech, Super-Injunctions and the Streisand Effect Electronic Frontier Foundation	Social
<input type="checkbox"/>	11:35 AM	HuffPost Greatest Person Of The Day: Maggie Doayne Builds Orphanage And School For Kids In Nepal	News
<input type="checkbox"/>	10:15 AM	Massage Therapy Boston Newton, MA	Beauty & Fitness
<input checked="" type="checkbox"/>	9:15 AM	True Religion "Bobby" Straight Leg Jean in Superfly - Men's - RueLaLa.com	Men's Clothes



Screen Shot



myINFOSAFE - Steve Johnson, Registered Demo Expires on 26-07-2011

Save & Log Out Save & Exit Services Settings Family Member: Steve Johnson Calculator Tips & Hints Tutorial Videos Online Help About

My Information

- Addresses
- Contacts
- Education
- Qualifications
- Key Documents**
- Loyalty Cards
- Memberships
- Weekly Routines
- Employment
- Service Providers
- UserIDs
- Tax Information

My Life

- My Goals

My Finances

- Income and Expenditure (Budget)
- Net Worth
- Financial Information
- Bank Accounts
- Loans & HP
- Credit Cards
- Safe Deposit
- Superannuation
- Insurance
- Investments
- Shares

My Asset Repository

- Residences
- Vehicles
- Appliances
- Jewellery
- Collectables
- Music & Movies
- Furniture

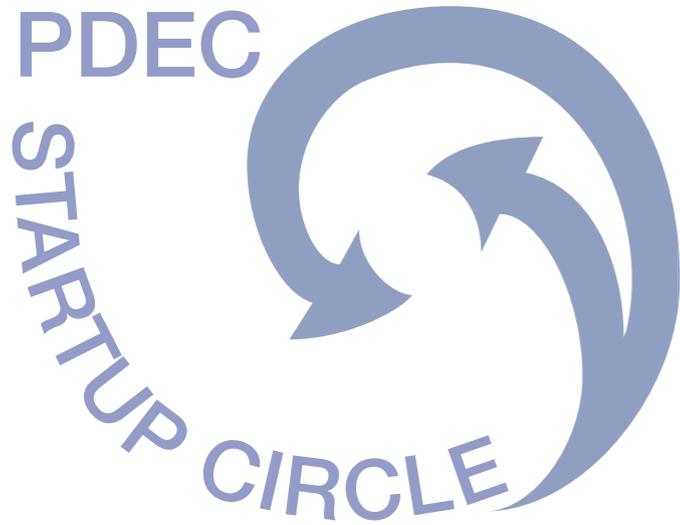
View As Cards Add New Record Delete Selected Record Add Reminder

Customize

Drag a column header here to group by that column

Description	Import Document	Date of Expiry	Notes	Location of Physical Item
Will	662e236a-9a7d-4...	06-06-2012	a	Lawyer
Power of Attorney	0f5b56b9-54a6-4...		a	Trust Company
Invoice of my Iphone	7d8c410e-fb77-4...		a	Computer Table
Passport	7f575c63-74c1-4...	22-07-2011	a	Strong Box
> My Insurance policy	56318edc-c1da-4...		a	Strong Box
Linda's insurance	cc4b9971-623e-4...	30-06-2011	a	Strong Box
linda's passport	2915c6c3-32fb-4f...	04-08-2011	a	Strong Box
My driving license	202af531-28cd-4f...	10-08-2011	a	Wallet
Social security number	48562c69-b62b-4...		a	File in cupboard
Medical report - diabetes	15b5904a-7152-4...		a	File in cupboard
Marriage certificate	016fd258-af20-4c...		a	Strong Box
Grad degree	026bd226-81c8-4...		a	File in cupboard
Post grad	8a746f57-5adf-4f...		a	File in cupboard
copy of credit card	14b3700d-b585-4...	29-06-2011	a	File in cupboard
CV	0984a20c-66a6-4...		a	File in cupboard

Record 5 of 15



Screen Shot



myINFOSAFE - Steve Johnson, Registered Demo Expires on 26-07-2011

Save & Log Out Save & Exit Services Settings Family Member: Steve Johnson Calculator Tips & Hints Tutorial Videos Online Help About

My Information

- Addresses
- Contacts
- Education
- Qualifications
- Key Documents
- Loyalty Cards
- Memberships
- Weekly Routines
- Employment
- Service Providers
- UserIDs
- Tax Information

My Life

- My Goals
- My Finances**
- Income and Expenditure (Budget)
- Net Worth
- Financial Information
- Bank Accounts
- Loans & HP
- Credit Cards
- Safe Deposit
- Superannuation
- Insurance
- Investments
- Shares

My Asset Repository

- Residences
- Vehicles
- Appliances
- Jewellery
- Collectables
- Music & Movies
- Furniture

Description	Weekly	Fortnightly	Monthly	Annual
Income				
Primary Income	\$ 1,150.00	\$ 2,300.00	\$ 4,983.33	\$ 59,800.00
Secondary Income				
Trust Income				
Spouse Income	\$ 550.00	\$ 1,100.00	\$ 2,383.33	\$ 28,600.00
Interest Income				
Total Income:	\$ 1,700.00	\$ 3,400.00	\$ 7,366.67	\$ 88,400.00
Expenditure				
Food	\$ 350.00	\$ 700.00	\$ 1,516.67	\$ 18,200.00
Rates	\$ 50.00	\$ 100.00	\$ 216.67	\$ 2,600.00
Personal Loans	\$ 100.00	\$ 200.00	\$ 433.33	\$ 5,200.00
Insurance	\$ 20.00	\$ 40.00	\$ 86.67	\$ 1,040.00
Telco	\$ 10.00	\$ 20.00	\$ 43.33	\$ 520.00
Power	\$ 60.00	\$ 120.00	\$ 260.00	\$ 3,120.00
Television	\$ 10.00	\$ 20.00	\$ 43.33	\$ 520.00
Tax	\$ 500.00	\$ 1,000.00	\$ 2,166.67	\$ 26,000.00
Waste Disposal	\$ 5.00	\$ 10.00	\$ 21.67	\$ 260.00
Gym Membership	\$ 17.00	\$ 34.00	\$ 73.67	\$ 884.00
Savings	\$ 50.00	\$ 100.00	\$ 216.67	\$ 2,600.00
Superannuation	\$ 50.00	\$ 100.00	\$ 216.67	\$ 2,600.00
Average Credit Card Payments	\$ 100.00	\$ 200.00	\$ 433.33	\$ 5,200.00
Medical Expenses	\$ 10.00	\$ 20.00	\$ 43.33	\$ 520.00
Mortgage				
Total Expenditure:	\$ 1,332.00	\$ 2,664.00	\$ 5,772.00	\$ 69,264.00
Surplus Income :	\$ 368.00	\$ 736.00	\$ 1,594.67	\$ 19,136.00

PDEC

STARTUP
CIRCLE



Screen
Shots



Firefox

XDI Graph Model

http://openxdi.gluu.info/oxGraph/

Define graph

XDI Statements

Add Remove Clear Set Apply

```
(/)/=abc
=abc(/)+passport
=abc+passport(/)!1
=abc+passport(/)!2
=abc+passport(/)()
=abc+passport(/)$v
=abc+passport!*1/=abc+passport!1
=abc+passport!*2/=abc+passport!2
=abc+passport!$v/=abc+passport!$v!2
=abc+passport!1/+country!(data:,Canada)
=abc+passport!1/+number!(data:,987654321)
=abc+passport!1/$d!(data:,2005-01-01T00:00:00Z)
=abc+passport!2/+country!(data:,New Zealand)
=abc+passport!2/+number!(data:,123456789)
=abc+passport!2/$d!(data:,2010-10-01T00:00:00Z)
=abc+passport()!1
=abc+passport()!2
=abc+passport()!1/$d!(data:,2010-11-11T11:11:11Z)
=abc+passport()!2/$d!(data:,2010-12-22T22:22:22Z)
=abc+passport!$v()!1
=abc+passport!$v()!2
```

JSON representation

Apply

```
{
  "=abc+passport!2/$d!": [
    "2010-10-01T00:00:00Z",
    "=abc+passport!$v()": [
      "11", "12",
      "=abc+passportV()": ["11", "12",
        ()],
        "$v",
        "=abc+passport()!1V$d!": [
          "2010-11-11T11:11:11Z",
          "=abc+passportV*2": [
            "=abc+passport!2",
            "=abc+passportV*1": [
              "=abc+passport!1",
              "=abc+passport!2V+number!": [
                "123456789",
                "=abcV()": ["+passport"],
                "=abc+passport!1V+country!": ["Canada"],
                "=abc+passport!$v!2V$": ["=abc+passport"],
                "=abc+passport!1V$d!": [
                  "2005-01-01T00:00:00Z",
                  "=abc+passport()V()": ["11", "12",
                    ()V()": ["=abc"],
                    "=abc+passport()!2V$d!": [
                      "2010-12-22T22:22:22Z",
                      "=abc+passport!$v": [
                        "=abc+passport!$v!2",
                        "=abc+passport!1V+number!": [
                          "987654321",
                          "=abc+passport!2V+country!": ["New Zealand"]
                        ]
                      ]
                    ]
                  ]
                ]
              ]
            ]
          ]
        ]
      ]
    ]
  ]
}
```

Visual representation

Zoom In Zoom Out Show relational arcs Show literal arcs Show contextual arcs

PDEC

STARTUP

CIRCLE



Screen Shots



Trust Agreement Associated contacts

Display Name * ADP

Description * ADP-handshake test

Metadata Type * File

Sp Metadata File [DA855F9895A1CA3B8CCB4F6A163A-sp-metadata.xml](#)

Update public certificate

Released

ADP
PersonImmutableID
transientid

[Configure MetadataFilters](#)

Configure specific RelyingParty

PERSONAL DATA ECOSYSTEM CONSORTIUM

Kaliya Hamlin
Executive Director



director@personaldataecosystem.org

(650) 260-4491

Internet Identity
Workshop #13
October 18-20



Saving the World with User-centric Identity.

The logo for Identity Woman, featuring a stylized lowercase 'i' with a vertical line through it, followed by the text 'identity Woman' in a large, bold, black font.

identitywoman.net
[@identitywoman](https://twitter.com/identitywoman)